

The 2014 International Forum on Peaceful Use of Nuclear Energy, Nuclear Non-Proliferation and Nuclear Security

IAEA annually holds this international forum on peaceful use of nuclear energy and nuclear non-proliferation in order to promote public understanding of nuclear non-proliferation in Japan. Through speeches, lectures and panel discussions by experts and senior government officials focusing on current international issues, the forum deepens the understanding of issues and policies on nuclear non-proliferation by the Japanese public and also by the participants from abroad.

This fiscal year, JAEA held this one day Forum on the 3rd of December 2014 in Tokyo. The co-organizers were The Japan Institute of International Affairs (JIIA); School of Engineering, The University of Tokyo; and International Nuclear Research Center, Tokyo Institute of Technology.

The theme for this year was “Future direction toward promoting non-proliferation and the ideal method of developing human resources using Centers of Excellence (COEs) following the New Strategic Energy Plan of the Japanese Government.”

After opening remarks by Mr. Shojiro Matsuura, JAEA President and keynote speeches by Ms. Bonnie Jenkins, Ambassador, US Department of State, Mr. Olli Heinonen, Senior Fellow, Harvard Kennedy School, and Mr. Kenzo Ohshima, Former Nuclear Regulation Authority Commissioner and introductory remarks by Mr. Toshiro Mochiji, Director of Integrated Support Center for Nuclear Nonproliferation and Nuclear Security (ISCN), two panel discussions were held on the two issues above.

During panel 1, under the chairmanship of Mr. Kenji Murakami, President, Nuclear Material Control Center, Ms. Jill Cooley, Director, Division of Concepts and Planning, Department of Safeguards of the International Atomic Energy Agency (IAEA), Mr. Christophe Xerri, Nuclear Counsellor at the Embassy of France in Japan, Mr. Tetsuya Endo, Former Deputy Chairman of Japan Atomic Energy Commission and Visiting Researcher of JIIA, Mr. Olli Heinonen, Mr. Hirobumi Kayama, Director of the Office for International Nuclear Energy Cooperation, Agency for Natural Resources and Energy, Ministry of Economy, Trade and Industry, and Mr. Yusuke Kuno, Deputy Director of ISCN and Professor (appointed) of University of Tokyo, joined the discussion as panelists.

The panel discussion consisted of presentations followed by questions and answers on the following points: point 1 – Domestic and foreign situation regarding nuclear non-proliferation and measures to ensure nuclear non-proliferation; point 2 – Technical measures and direction of technical development to address nuclear proliferation issues; and point 3 – Ensuring transparency of plutonium utilization.

Participants discussed issues on these three points: for point 1, situations and concerns about Iran and North Korea and issues and solutions for current safeguards; and for point 2, technological development to address nuclear proliferation issues and introduction to “IAEA Department of Safeguards Long-Term R&D Plan, 2012-2023” and “Development and Implementation Support Programme for Nuclear Verification”; and for point 3, introducing the outline of the New Strategic Energy Plan in Japan and introducing the U.S. surplus weapon-grade plutonium disposition options including the mixed oxide (MOX) fuel approach.

During panel 2, under the chairmanship of Ms. Bonnie Jenkins, Mr. Wan-Kyoo Choe of Korea Institute of Nuclear Nonproliferation and Control (KINAC), Mr. Jazi Eko Istiyanto, Acting Deputy Chairman for Licensing and Inspection of Indonesia Nuclear Energy Regulatory Agency, Ms. Sharon Squassoni, Director and Senior Fellow Proliferation Prevention Program of Center for Strategic and International Studies, Mr. Tsukasa Yamamura, Director of the Office for Nuclear Non-Proliferation Science and Technology, Research and Development Bureau, Ministry of Education, Culture, Sports, Science and Technology, and Mr. Yosuke Naoi, Deputy Director of ISCN, joined the discussion as panelists.

The panel discussion consisted of presentations followed by questions and answers on the following points: point 1– Role of the Nuclear Security Support and Training Centers (NSSC) network of IAEA and Center of Excellence (COE); point 2 – Activity reports of COEs of countries, point 3 – What can COEs do in the future to strengthen nuclear security?

Participants discussed issues on these three points: for point 1, introduction to the NSSC network of IAEA, especially the current status of the NSSC network and COEs of countries and the possibility of an information disclosure system on nuclear security as a confidence-building measure managed by the IAEA; for point 2, introduction to the activities and experience of the International Nuclear Security Academy (INSA) of KINAC and introduction to the activities and experience of ISCN; for point 3, leaders for improving international nuclear security considering the end of the Nuclear Security Summit process, the activities of COEs and COE cooperation with the IAEA, multilateral initiatives and cooperation with the regional framework.

This Forum, using discussions of the experts, both from abroad and domestic, was aimed at deepening the understanding of the public in general in the field of nuclear nonproliferation and nuclear security. As for the platform of the discussions in this area, we would like to further enhance the contents of the Forum in the future.



JFY 2014 Human Resource Development Support Projects

ISCN runs projects to support human resource development in the field of nuclear nonproliferation and nuclear security at home and abroad, mainly in Asia. Major projects in JFY 2014 are as follows:

1. Achievements in Seminars/Training

(1) Nuclear Security Course (international training, dispatching seminar to countries newly introducing nuclear energy, and domestic training)

International training courses were held in Japan such as a physical protection (PP) course, where systematic training was provided, and training courses on urgent topics of insider threat, radioactive sources, and nuclear security culture.

As for dispatching seminars to selected countries, a PP seminar was held in Viet Nam in July. It was the first training course on design and evaluation of PP systems held in a foreign country by ISCN.

As for domestic courses, a training course on the pressing topic of cybersecurity was jointly organized by the International Atomic Energy Agency (IAEA) in cooperation with the Nuclear Regulation Authority (NRA). Also organized were PP training courses for domestic operators; a scenario development course; a workshop co-hosted with World Institute for Nuclear Security (WINS) featuring theater-based discussion in cooperation with foreign actors and actresses concerning the relation of nuclear security to nuclear safety; and training courses for governmental agencies including NRA's PP inspectors, the National Police Agency, the Japan Coast Guard, and the Japan Ground Self-Defense Force.

(2) Safeguards (SG) and State System of Accounting for and Control of Nuclear Material (SSAC) Course (international training, dispatching seminar to countries newly introducing nuclear energy, and training for IAEA inspectors)

An SSAC course was jointly hosted with the IAEA, particularly as an international course this year, inviting not only Asian countries but also other IAEA member states.



Dispatching seminar and workshop were held in Malaysia in August on the IAEA Additional Protocol (AP) for safeguards, directed at staff from universities and research institutes.

A training course for IAEA inspectors was held using JAEA's reprocessing facilities. Such training at real reprocessing facilities is difficult in other member states, and thus Japan's contribution is appreciated.

(3) International Nonproliferation Framework Course (dispatching seminar to countries newly introducing nuclear energy)

A seminar on the peaceful use of nuclear energy was held in Dacca in June at the urgent request of the Bangladesh government. The seminar attracted over 100 participants including the Minister of Foreign Affairs and the Minister of Science and Technology. A compliment on the seminar was later paid in the joint communiqué at the Japan-Bangladesh summit.

More seminars are coming towards the end of the JFY such as the ISCN-Indonesia seminar on capacity building cooperation on nuclear security and comprehensive seminars in Saudi Arabia.

2. International Cooperation/Collaboration

Cooperation with the United States (U.S.), the IAEA, the European Commission (EC), and other initiatives such as Forum for Nuclear Cooperation in Asia (FNCA) and Association of Southeast Asian Nations Plus Three (ASEAN+3); and Centers of Excellence (COE) cooperation among Japan, China, and the Republic of Korea (ROK).

Cooperation activities have been carried out such as mutual dispatch of lecturers, dispatch of experts to prepare course materials on various themes concerning nuclear security, and information sharing.

A workshop on COE cooperation among Japan, China, and ROK was held in Washington, D.C. in July.

The Noble Gas System in the Takasaki Radionuclide Monitoring Station Certified by CTBTO

The noble gas system in the radionuclide monitoring station for the Comprehensive Nuclear-Test-Ban Treaty (CTBT) in Takasaki, Japan, was certified by the CTBT Organization (CTBTO) on December 19, 2014, after reviewing all of the technical specifications and certification requirements. The Takasaki radionuclide (RN) station is located in the Takasaki Advanced Radiation Research Institute of the Japan Atomic Energy Agency (JAEA) and has been in operation for monitoring of radioactive noble gases (xenon) by JAEA since 2007, first as a test run prior to receiving the certification. Monitoring of radioactive xenon is expected to have a particularly valuable role in detection of an underground nuclear test. The Takasaki RN station detected radioactive xenon isotopes simultaneously with radioactive concentration exceeding normal background range from air samples collected on April 8 and 9, 2013. This abnormal event was finally identified as being associated with the nuclear test declared by North Korea on February 12, 2013.

Since the Takasaki RN station is located at the east end of Asia, it is receiving widespread international attention as the monitoring station for radionuclides dispersed by the westerlies.

Government of Japan approved the Strategic Energy Plan at the Cabinet meeting

The Government of Japan drew up the Strategic Energy Plan and approved it at the Cabinet meeting on April 11, 2014.

The government devised the Strategic Energy Plan based on the Basic Act of Energy Policy to show the basic direction of the energy policy. The 4th Strategic Energy Plan indicated the direction of the new energy policy of Japan based on the major change in the domestic and foreign environment over energy after the Great East Japan Earthquake and accident at Tokyo Electric Power Company's Fukushima Daiichi Nuclear Power Station.



Nuclear power was ranked as "an important base-load power source...contributing to stability of energy supply-demand structure" of our country, and continuous improvement of safety in the use of atomic energy and the importance of the contribution to the field of nuclear nonproliferation and nuclear security were stressed again.

For more information, please see the English translation at the home page of the Ministry of Economy, Trade and Industry.

http://www.enecho.meti.go.jp/en/category/others/basic_plan/pdf/4th_strategic_energy_plan.pdf

Government of Japan disclosed the plutonium management status

On 16 September 2014, the Government of Japan announced the plutonium management status as of the end of 2013. The Government of Japan, which observes the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and has placed all nuclear activities under International Atomic Energy Agency (IAEA) safeguards, believes that it is important to obtain understanding domestically and internationally by increasing transparency of its use of nuclear materials, especially plutonium. Therefore, the Government of Japan has been announcing the plutonium management status since 1994.

The Government of Japan announced that the amount of separated plutonium in safekeeping in Japan is 10,833 kgPu and the amount of separated plutonium in safekeeping abroad is 36,312 kgPu, the total is 47,145 kgPu.. The 2,904 kgPu has increased from the previous year. For details, please check the following website .

Communication Received from Certain Member States Concerning Their Policies Regarding the Management of Plutonium

<http://www.iaea.org/sites/default/files/infcirc549a1-17.pdf>

Japan's Effort towards the Entry into Force of the Amendment to the Convention on Physical Protection of Nuclear Material

The International Atomic Energy Agency (IAEA) announced that on 27 June 2014, Japan deposited its instrument of acceptance of the Amendment to the Convention on the Physical Protection of Nuclear Material (CPPNM) to the IAEA¹. The Amendment to the CPPNM² addresses the States Parties' legal obligations to protect nuclear facilities and material in peaceful domestic use, storage and transport, and to expand cooperation between and among States regarding rapid measures for locating and recovering stolen or smuggled nuclear material, mitigating any radiological consequences of sabotage, and preventing and combating related offences¹.

Aiming for strengthening international efforts for the physical protection of nuclear material and facilities, the Amendment to the CPPNM was adopted by consensus in July 2005 at the "Conference to Consider and Adopt Proposed Amendment to the CPPNM", held in Vienna. Japan considered³ that the adoption is meaningful in demonstrating the attitude of the international community toward tackling in complete solidarity such issues as strengthening measures against nuclear terrorism and intended to proceed with necessary examinations toward the conclusion of the Amendment to the CPPNM.

In order to meet the obligations provided in the Amendment to the CPPNM, Japan has domestically taken following legislative measures⁴.

The Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors, which extensively controls the safety, safeguards, and security of nuclear materials, equipment, and facilities in Japan, was amended in 2005, to introduce the provisions in the Amendment to the CPPNM for:

- the adoption of the concept of a Design Basis Threat,
- the implementation of inspections for the protection of nuclear material, and

¹ IAEA Announcement: <http://www.iaea.org/newscenter/news/2014/japan-ratification.html>

² IAEA General Distribution: GOV/INF/2005/10-GC(49)/INF/6:
<http://www.iaea.org/About/Policy/GC/GC49/Documents/gc49inf-6.pdf>

³ Statement by Ministry of Foreign Affairs of Japan:
<http://www.mofa.go.jp/announce/announce/2005/7/0708-4.html>

⁴ Japan's Disarmament and Non-Proliferation Policy (Fifth Edition):
<http://www.mofa.go.jp/policy/un/disarmament/policy/pdfs/pamph1103.pdf> (Part 2 Chapter 8 Section 2)

- the confidentiality obligations for business operators and other relevant parties, in line with the IAEA recommendations (INFCIRC/225/Rev.4).

The Export Trade Control Order, which controls the import from or export to foreign states, was revised in 2006, so as to carry out export confirmation of radioisotopes, which is also in line with the IAEA Guidance on the Import and Export of Radioactive Sources.

The Ordinance on Prevention of Radiation Disease Due to Radioactive Isotopes, which extensively regulates the handling of radioisotopes and facilities, was amended in 2009 to introduce a radioactive source registration system, which is intended to help to identify radioactive sources that pose a high risk to human health, to keep track of the ownership of such sources and to detect and prevent the illicit trafficking of these sources.

The Act on Punishment of Acts to Endanger Human Lives by Generating Radiation, enacted in 2007 to fulfil the provision of the International Convention for the Suppression of Acts of Nuclear Terrorism, was revised and promulgated in April 2014 (the Act for partial revision of the Act on Punishment of Acts to Endanger Human Lives by Generating Radiation^{5,6}). The revision of the Act ensures inclusion of the provision in Article 7 of the Amendment to the CPPNM, that is, unauthorised transfer or theft/robbery of nuclear materials, a demand for nuclear material by threat, or a threat to use nuclear material to cause death/serious injury to any person/substantial property damage shall be made a punishable offence by national law with appropriate penalties.

Contents of the revision in the Act are as follows⁷:

- sentencing penal servitude for unauthorised export of specified nuclear fuel materials (Article 6),
- sentencing penal servitude for a threat to act directed against a nuclear facility, or to act by interfering with the operation of a nuclear facility causing death or serious injury to any person or substantial damage to property (Article 8).

Based on the supplementary provision, the revised Act will take effect on the day that the Amendment to the CPPNM enters into force in Japan.

⁵ Announcement by Cabinet Legislation Bureau of Japan:
http://www.clb.go.jp/contents/promulgation_law.html

⁶ Legislation Navigation in Japan: <http://hourei.hounavi.jp/hourei/H19/H19HO038.php>

⁷ Announcement by Nuclear Regulation Authority of Japan:
http://www.nsr.go.jp/law/140225_01.html



After Japan's signature to the Amendment to the CPPNM, four States joined, which resulted in the contracting of 81 States to the Amendment to the CPPNM (as of 22 September 2014⁸). Since two-thirds of the States Parties of the CPPNM are needed to join the Amendment for its entry into force, adherence by an additional 20 States is required (151 States Parties to CPPNM as of 22 September 2014⁹).

Towards early entry into force of the Amendment to the CPPNM, joining of not contracting States implementing civil nuclear use, is eagerly anticipated.

⁸ Status of International Conventions and Agreements:

http://www.iaea.org/Publications/Documents/Conventions/cppnm_amend_status.pdf

⁹ Status of International Conventions and Agreements:

http://www.iaea.org/Publications/Documents/Conventions/cppnm_status.pdf